

ABSTRACT OF THE DISCLOSURE

The invention provides isolated nucleic acids encoding human
5 pancreatic islet-specific glucose-6-phosphatase proteins and nucleic acids having
diagnostic, preventive, therapeutic, and other uses. These nucleic acids and proteins
are useful for diagnosis, prevention, and therapy of a number of human and other
animal disorders. The invention also provides antisense nucleic acid molecules,
expression vectors containing the nucleic acid molecules of the invention, host cells
10 into which the expression vectors have been introduced, and non-human transgenic
animals in which a nucleic acid molecule of the invention has been introduced or
disrupted. The invention still further provides isolated polypeptides, fusion
polypeptides, antigenic peptides, and antibodies. Diagnostic, screening, and
therapeutic methods utilizing compositions of the invention are also provided. The
15 nucleic acids and polypeptides of the present invention are useful as modulating agents
in regulating a variety of cellular processes, including those which are aberrant in
diabetes and other disorders associated with pancreatic dysfunction. The invention
includes methods of modulating secretion of pancreatic hormones such as insulin and
glucagon, and these methods can be used to alleviate disorders (e.g., diabetes and
20 hyperinsulinemia) associated with aberrant secretion of these hormones.